

# Alaska Sustainable Salmon Fund Statement of Work

*Revision #1: Extend end date to 6/15/14; update SOW for extended timeline*

**I. Project Title:** Southeast Prince of Wales Stream Habitat Mapping – Phase 1

**II. Project Number:** 44554      **PCSRF Objective:** P&A

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**IV. Project Period:** 4/1/13 - 6/15/14

**V. Project Description**

1. Synopsis

This project will map baseline salmon distribution and habitat conditions in five watersheds on Prince of Wales Island in Southeast Alaska. These productive salmon systems are important subsistence areas for the community of Hydaburg. Activities include: documentation of the full extent of anadromous water bodies in each watershed; mapping of salmon habitat characteristics and spawning activity; and documentation of baseline water quality and flow. Results include an updated *Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes* and its associated Atlas (AWC) and baseline habitat information that will be used for improved habitat conservation. This project will allow the community of Hydaburg to improve the overall management of its lands and protect the resources that are important to it. *See related AKSSF projects 44565 and 44734.*

2. Introduction

Several of the systems to be surveyed are currently being considered for logging activities in the near future, and others have already been impacted. The community of Hydaburg is concerned about the impact of these activities on the long-term health of the subsistence fishery and lifestyle, and wishes to document fish presence and habitat quality in order to help protect resources and/or inform restoration actions.

In 2011, The Nature Conservancy (TNC) worked with the Hydaburg Cooperative Association (HCA) in order to prioritize watersheds for salmon habitat mapping. Watersheds were prioritized based on: (1) their importance to subsistence; (2) their lack of current information in the AWC (including undocumented low-elevation stream sections, missing species, and/or missing life history stages); and (3) their likelihood for near-term logging activities. During prioritization, the Alaska Department of Fish and Game (ADF&G), Division of Sport Fish (SF), was consulted in order to avoid redundancies in efforts to catalog anadromous fish streams. Hetta and Eek watersheds were initially selected as the highest priority watersheds for habitat mapping completed through previous Alaska Sustainable Salmon Fund project 45980 in 2012. The five watersheds selected for mapping in 2013 and 2014 through this project are: the Hydaburg River watershed, Kasook Inlet, Nutkwa Inlet, Keete Inlet, and Natzuhini River.

To improve our understanding of salmon distribution and habitat conditions in Hydaburg area watersheds, standard field survey methods developed by ADF&G SF will be used. Applying this approach will result in an updated and refined AWC dataset for the watersheds. This will ensure fish passage as well as adequate riparian buffers on salmon spawning and rearing habitat are maintained and will provide important information on habitat characteristics such as stream channel type, pools, and presence of large woody debris that can be documented as baseline conditions for future conservation. The majority of the field work and data collection will be completed by local hires, including the individuals who successfully completed surveys of the Hetta and Eek watersheds in 2012.

Project field work will involve approximately two months of cumulative field research scheduled for the months of June – September, 2013, and April - May, 2014. These dates were chosen to maximize the likelihood of detecting the presence of salmon and the accessibility of the survey areas. Surveys will be focused on uncataloged low slope reaches and areas of concern. AWC survey data will be compiled in the appropriate format and submitted for nomination. Stream habitat survey data will be compiled in the appropriate format and submitted to the Southeast Alaska GIS Library for inclusion in the joint U.S. Forest Service-ADF&G regional hydrographic dataset.

Anadromous fish stocks and the ecosystems they support and enhance are vitally important to the subsistence lifestyles of the residents of Hydaburg and the impacts of past and potential activities need to be addressed and protected against. Systems such as the ones addressed in this project may not be prioritized by current methods employed by agencies such as ADF&G because of their small size and remote nature, and thus may not get cataloged before development activities take place. This project will harness the unique abilities of Hydaburg residents that are not always present in other projects, including local knowledge and access to these areas. Importantly, this project provides a means for collecting data on and protecting areas most important to the local community as well as providing local employment and community capacity building.

### 3. Locations

Site: Nutkwa Inlet

Latitude: 55.131389 N

Longitude: 132.53 W

Site: Hydaburg River

Latitude: 55.20625 N

Longitude: 132.817639 W

Site: Keete Inlet

Latitude: 55.083611 N

Longitude: 132.486389 W

Site: Kasook Inlet

Latitude: 55.015 N

Longitude: 132.795833 W

Site: Natzuhini River

Latitude: 55.270833 N

Longitude: 132.866389 W

### 4. AKSSF Objective

1A-2

## VI. Objectives

### 1. Project Objectives

- Conduct AWC surveys in water bodies associated with Nutkwa Inlet, Keete Inlet, Kasook Inlet, the Hydaburg River watershed, and Natzuhini River
- Document riparian habitat condition characteristics in water bodies associated with Nutkwa Inlet, Keete Inlet, Kasook Inlet, the Hydaburg River watershed, and Natzuhini River
- Submit field survey information packets for AWC nominations where it will be available to researchers, managers, and the public
- Submit riparian habitat information to the Southeast Alaska GIS Library where it will be available to researchers, managers, and the public

### 2. Methods

The methods for the stream surveys may be broken down into the following four components:

- Mapping the stream course
- Mapping habitat features encountered along the stream
- Collecting information describing stream reaches and side channels
- Collecting other data including fish observations, discharge, and temperature regimes

Prior to field work, Cathy Needham of Kai Environmental Consulting Services, LLC, will train a field team of three people on survey methods in Hydaburg. After the training, the field crew will mobilize to the watersheds within the community, beginning stream habitat surveys at the mouth of each outlet creek of their respective systems and working systematically into the upper watershed. Access to the lower portion of each watershed will be by skiff. The field crew will camp for a large portion of the field work.

The field team will map the course of each stream within each watershed, which will provide the spatial data necessary for delineating watered channels and their connectivity with tributaries, side channels, and lakes/ponds. GPS waypoints will be collected every 15-30 m (depending on the complexity of the stream) as the crew

follows the stream course. Digital photographs also will be taken at these locations. For each stream that reaches the lake system and each outlet creek, stream discharge will be measured. Data loggers will be installed at the mouth of each watershed and large tributary. Temperature and discharge regimes collected when the loggers are retrieved in the fall will be used as baseline information for the watershed and included in subsequent reports as additional data.

Data will be collected on features of interest encountered while mapping the stream course, such as culverts, fish passage barriers, riparian disturbance, erosion, restoration, etc. Waypoints will identify the spatial location, and field measurements and pictures will document the feature site.

Individual stream reaches will be characterized by classifying geomorphic channel type and stream class using U.S. Forest Service protocols which form the basis of the ADF&G Stream Habitat Assessment protocols. Upper and lower waypoints for each stream reach will be collected, along with data used for geomorphic channel typing. These measurements will include the following:

- a) Average stream gradient collected at the bottom, mid-point, and top of reach
- b) Bank full width (m) collected at the mid-point of reach
- c) Channel incision depth (m) recorded at the mid-point of reach
- d) Stream bank composition (dominate substrate forming the stream banks)
- e) Dominate substrate class (i.e., organics, sand/silt, gravel, cobble, boulder, bedrock) forming the stream channel
- f) Channel pattern (i.e., singular, multiple-braids)
- g) Channel type classification, where each individual reach is identified by its unique channel type
- h) Stream class, where each individual reach is classified on its aquatic habitat potential, as identified in the working protocol for improving stream class designations

Fish observation points also will be collected along each stream reach, including additional points above and below features thought to be the extent of fish habitat along each stream within each watershed system. Minnow trapping will be the primary data collection method used for collecting information to be used in the nominations for the AWC. At selected sites, baited minnow traps will be used to quantify smolt and fry life stages of all fish within each stream. Data for these fish observation points will be in accordance with the cited protocols for stream habitat surveys.

***Revision #1 amends the timeline for completion of project field work***

Adult foot count surveys will be completed for each system. The crew will walk the upper tributaries and tally the number of adult fish seen within the creek and/or dead carcasses along the banks. GPS points will be taken at the end of each upper creek survey when no evidence of adult fish remains in order to document where adult fish spawning areas are within the watershed.

Field surveys will be completed no later than May 23, 2014. All data collected will be synthesized into AWC nomination packages in accordance with the cited guidelines. Nomination packets for this study will be submitted as water body surveys are completed, with the final packets being submitted by June 6, 2014. Success will be evaluated based on regulatory adoption in the AWC of submitted nomination packages for individual water bodies.

Upon completion of stream habitat surveys for all stream reaches containing anadromous fish, fish habitat data will be used to update the joint U.S. Forest Service-ADF&G SF hydrography layer available to the public through the Southeast Alaska GIS Library (<http://seakgis.alaska.edu/>). Success will be evaluated based on the amount of stream habitat incorporated into the joint USFS-ADF&G SF hydrography layer.

**VII. Benefits**

This project will provide legal conservation measures and protection for the watersheds surveyed and will develop an effective baseline inventory of important salmon habitat.

**VIII. Products, Milestones, and Timelines** (*amended with Revision #1*)

- April 1 – May 31, 2013: Obtain required permits and work on training and field logistics
- June 15 – May 23, 2014: Conduct training, stream habitat surveys, and minnow trapping
- August 1 – May 23, 2014: Perform foot surveys to count adult salmon; conduct training on data compilation and nomination procedures
- October 1 – June 6, 2014: Compile data and prepare AWC nominations as water body surveys are completed
- October 1, 2013-June 6, 2014: Submit AWC nominations
- January 1 – February 28, 2014: Obtain required permits for remaining surveys
- June 6, 2014: Submit stream habitat survey information to the Southeast Alaska GIS Library as water body surveys are completed

**IX. Budget** (*unchanged with Revision #1*)

Summary	Total
100 Personnel	\$25,480
200 Travel	\$0
300 Contractual	\$16,493
400 Supplies	\$11,019
500 Equipment	\$0
Subtotal	\$52,992
600 Indirect	\$10,126
Total	\$63,118

This project funds the following entities:

- TNC: \$14,388

- HCA: \$48,730

### TNC Budget

TNC	Total
100 Personnel	\$0
200 Travel	\$0
300 Contractual	\$12,193
400 Supplies	\$0
500 Equipment	\$0
Subtotal	\$12,193
600 Indirect @ 18%	\$2,195
Total	\$14,388

#### TNC Budget Narrative:

Line 300: Contractual (\$12,193)

TNC will contract with Kai Environmental Consulting Services, LLC (Kai Environmental) for field survey work; costs include survey method training in Hydaburg, data compilation training in Hydaburg; personnel (Cathy Needham and two field technicians), project related travel (Juneau-Hydaburg), subcontracted services (e.g. skiff rental with operator, float plan charters), and supplies: \$12,193.

Line 600: Indirect (\$2,195)

TNC's federally negotiated indirect rate through June 30, 2013 is 18% and excludes, among other costs, external transfers and the value of land sold or donated to government agencies and other conservation organizations.

### HCA Budget

HCA	Total
100 Personnel	\$25,480
200 Travel	\$0
300 Contractual	\$4,300
400 Supplies	\$11,019
500 Equipment	\$0
Subtotal	\$40,799
600 Indirect @ 19.44%	\$7,931
Total	\$48,730

#### HCA Budget Narrative:

Line 100: Personnel (\$25,480)

- One Field Crew Leader will participate in field survey work and serve as liaison between TNC, HCA, and Kai Environmental: 1.12 months @ \$4,000/month = \$4,480
- Two Field Crew Technicians (TBD) will participate in field survey work: 2.5 months/person @ \$3,500/month x 2 people = \$17,500

- One Administrative Assistant will assist with data entry/data compilation: 1 month @ \$3,500/month = \$3,500

Line 300: Contractual (\$4,300)

The Field Crew Leader and Field Crew Technicians will travel from Hydaburg to remote work sites (skiff rental with operator; float plane charter as required): \$4,300

Line 400: Supplies (\$11,019)

- Field groceries: 60 days @ \$11.11/day x 3 people = \$2,000
- Canoe: \$2,500
- Water temp dataloggers: 5 @ \$125/datalogger: \$625
- Datalogger software and base station: \$244
- Crew gear (waders, packs): \$1,500
- Boat fuel: \$1,200
- Camp gear (sleeping bags, pad, stove, cooking items): \$1,000
- GPS/radios: \$750
- Waterproof camera: \$400
- Range finder: \$550
- Other field supplies: \$250

Line 600: Indirect (\$7,931)

HCA's federally negotiated indirect rate through December 31, 2012 is 19.44% excluding capital expenditures and passthrough funds.

**X. Match Budget (unchanged with Revision #1)**

<b>Summary (33%)</b>	<b>Total</b>
100 Personnel	\$12,444
200 Travel	\$2,180
300 Contractual	\$2,911
400 Supplies	\$0
500 Equipment	\$0
Subtotal	\$17,535
600 Indirect	\$3,294
<b>Total</b>	<b>\$20,829</b>

**TNC Match Budget**

<b>TNC</b>	<b>Total</b>
100 Personnel	\$2,924
200 Travel	\$2,180
300 Contractual	\$2,911
400 Supplies	\$0
500 Equipment	\$0
Subtotal	\$8,015
600 Indirect @ 18%	\$1,443

Total	\$9,458
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TNC Match Budget Narrative:

Line 100: Personnel (\$2,924)

Christine Woll, Spatial Ecologist, will be responsible for quality control on deliverables to be incorporated into the AWC and the Southeast Alaska GIS Library: .49 months @ \$5,916/month = \$2,924

Line 200: Travel (\$2,180)

Norman Cohen and Christine Woll will travel from Juneau to Hydaburg to visit remote work sites for project oversight and quality control:

- Airfare: 2 tickets @ \$450/ticket = \$900
- Lodging: 4 nights @ \$115/night x 2 people = \$920
- Per diem: 5 days @ \$36/day x 2 people = \$360

Line 300: Contractual (\$2,911)

TNC will contract with Kai Environmental for field survey work; costs include survey method training in Hydaburg, data compilation training in Hydaburg, a project leader (Cathy Needham), a field crew leader, four field technicians, project related travel (Juneau-Hydaburg), subcontracted services (e.g. skiff rental with operator, float plane charters), and supplies: \$2,911

Line 600: Indirect (\$1,443)

TNC's federally negotiated indirect rate through June 30, 2013 is 18% and excludes, among other costs, external transfers and the value of land sold or donated to government agencies and other conservation organizations.

**HCA Match Budget**

HCA	Total
100 Personnel	\$9,520
200 Travel	\$0
300 Contractual	\$0
400 Supplies	\$0
500 Equipment	\$0
Subtotal	\$9,520
600 Indirect @ 19.44%	\$1,851
Total	\$11,371

HCA Match Budget Narrative:

Line 100: Personnel (\$9,520)

A Field Crew Leader (TBD) will participate in field survey work and serve as liaison between TNC, HCA, and Kai Environmental: 2.38 months @ \$4,000/month = \$9,520

Line 600: Indirect (\$1,851)

HCA's federally negotiated indirect rate through December 31, 2012 is 19.44% excluding capital expenditures and passthrough funds.